

File No: 300p5

UNITED STATES

Title: BRUSH TILTING MECHANISM

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**Title: BRUSH TILTING MECHANISM**

**Field of the Invention**

5 The present invention relates generally to brush tilting mechanism and more specifically to a mechanism for tilting a paint brush.

**Background of the Invention**

10 The problem encountered with traditional paint brushes is that when they are set down, the bristles of the brush tend to lay on a flat surface on which the brush is placed. It would be useful to be able to place a brush onto a flat surface without the bristles touching the flat surface. This is particularly important when bristles are loaded with paint in order to prevent contamination of the paint on the bristles from dirt or dust which may be laying on the surface on which the paint brush is placed.

15 Therefore, it is desirable to have a brush tilting mechanism which allows for the bristles of the paint brush to be elevated off a flat surface thereby preventing contamination of the paint on the bristles and allowing the user of a paint brush to be able to place the paint brush down in any location without being concerned about the bristles being contaminated or the surface on which the paint brush is being placed on being contaminated with paint.

**Summary of the Invention**

The present invention comprises in combination a paint brush and a brush tilting mechanism including:

(a) a paint brush of the type including a ferrule, bristles and a handle; and

(b) a means for tilting the bristles of the brush upwardly away from a flat surface when said paint brush being laid onto a flat surface.

An alternate embodiment of the present invention comprises in combination a paint brush and a brush tilting mechanism including:

(a) a paint brush of the type including a ferrule, bristles and a handle; and

(b) a means for tilting the bristles of the brush head upwardly away from a flat surface at an angle  $\theta$  relative a flat surface when said paint brush being laid onto a flat surface.

Preferably wherein said tilting means includes a ferrule having a raised portion such that the bristles of the brush are oriented upwardly away from a flat surface when said paint brush being laid onto a flat surface.

Preferably wherein said raised portion includes at least one dimple.

Preferably wherein said raised portion includes at least one ridge.

Preferably wherein said tilting means includes an adaptor piece including a raised portion for releasably positioning onto said ferrule such that the bristles of the brush are oriented upwardly away from a flat surface when said paint brush being laid onto a flat surface.

5 Preferably wherein said tilting means includes a sleeve including a raised portion for releasably positioning onto said ferrule such that the bristles of the brush are oriented upwardly away from a flat surface when said paint brush being laid onto a flat surface.

An alternate embodiment of the present invention comprises in combination a paint brush and a brush tilting mechanism including:

(a) said paint brush including a brush head attached to a paint brush handle, wherein said brush head oriented substantially along a brush plane;

(b) said paint brush handle including a handle section integrally part of said paint brush handle and substantially oriented along a handle axis, said handle axis spaced from and substantially parallel to said brush plane, such that said paint brush being adapted to be gripped in a hand; and

(c) said tilting mechanism including a means for tilting the bristles of said paint brush brush upwardly away from a flat surface when said paint brush being laid onto a flat surface.

An alternate embodiment of the present invention comprises in combination a paint brush and a brush tilting mechanism including:

(a) said paint brush including a brush head attached to a paint brush handle, wherein said brush head oriented substantially along a brush plane;

5 (b) said paint brush handle including a handle section integrally part of said paint brush handle and substantially oriented along a handle axis, said handle axis spaced from and substantially parallel to said brush plane, such that said paint brush being adapted to be gripped in a hand; and

10 (c) said tilting mechanism including a means for tilting the bristles of the brush head upwardly away from a flat surface at an angle  $\theta$  relative a flat surface when said paint brush being laid onto a flat surface.

15 Preferably wherein said tilting means includes a ferrule having a raised portion such that the bristles of the brush are oriented upwardly away from a flat surface when said paint brush being laid onto a flat surface.

Preferably wherein said raised portion includes at least one dimple.

Preferably wherein said raised portion includes a ridge.

Preferably wherein said tilting means includes an adaptor piece including a raised portion for releasably positioning onto said paint brush such that the bristles of the brush are oriented upwardly away from a flat surface when said paint brush being laid onto a flat surface.

5 Preferably wherein said tilting means includes a sleeve including a raised portion for releasably positioning onto said paint brush such that the bristles of the brush are oriented upwardly away from a flat surface when said paint brush being laid onto a flat surface.

#### **Brief Description of the Drawings**

10 **Figure 1** is a bottom perspective view of a paint brush ferrel.

**Figure 2** is a top perspective view of a paint brush ferrel.

**Figure 3** is a bottom perspective view of a paint brush ferrel.

**Figure 4** is a top perspective view of a paint brush ferrel.

15 **Figure 5** is a top plan view of a paint brush ferrel showing a single dimple providing for a ridge.

**Figure 6** is a left plan view of the paint brush ferrel shown in Figure 5.

**Figure 7** is a right elevational plan view of the paint brush ferrel shown in Figure 5.

**Figure 8** is a front elevational plan view of the paint brush ferrel shown in Figure 5.

**Figure 9** is a bottom plan view of the paint brush ferrel shown in Figure 5.

20 **Figure 10** is a top plan view of a paint brush ferrel showing a single dimple providing

for a ridge.

**Figure 11** is a left plan view of the paint brush ferrel shown in Figure 10.

**Figure 12** is a right elevational plan view of the paint brush ferrel shown in Figure 10.

**Figure 13** is a front elevational plan view of the paint brush ferrel shown in Figure 10.

**Figure 14** is a bottom plan view of the paint brush ferrel shown in Figure 10.

**Figure 15** is a top plan view of a paint brush ferrel showing a single dimple providing for a ridge.

**Figure 16** is a left plan view of the paint brush ferrel shown in Figure 15.

**Figure 17** is a right elevational plan view of the paint brush ferrel shown in Figure 15.

**Figure 18** is a front elevational plan view of the paint brush ferrel shown in Figure 15.

**Figure 19** is a bottom plan view of the paint brush ferrel shown in Figure 15.

**Figure 20** is a top plan view of a paint brush ferrel showing a single dimple providing for a ridge.

**Figure 21** is a left plan view of the paint brush ferrel shown in Figure 20.

**Figure 22** is a right elevational plan view of the paint brush ferrel shown in Figure 20.

**Figure 23** is a front elevational plan view of the paint brush ferrel shown in Figure 20.

**Figure 24** is a bottom plan view of the paint brush ferrel shown in Figure 20.

**Figure 25** is a schematic top plan view of a paint brush handle together with a ferrel end bristles showing the paint brush tilting mechanism.

**Figure 26** is a side elevational plan view of the paint brush handle together with the brush and ferrel placed onto a flat surface.

**Figure 27** is a schematic top plan view of a paint brush handle together with a ferrel end bristles showing the paint brush tilting mechanism.

**Figure 28** is a side elevational plan view of the paint brush handle together with the brush and ferrel placed onto a flat surface.

**Figure 29** is a schematic top plan view of a paint brush handle together with a ferrel end bristles showing the paint brush tilting mechanism.

**Figure 30** is a side elevational plan view of the paint brush handle together with the brush and ferrel placed onto a flat surface.

**Figure 31** is a schematic top plan view of a paint brush handle together with a ferrel end bristles showing the paint brush tilting mechanism.

**Figure 32** is a side elevational plan view of the paint brush handle together with the brush and ferrel placed onto a flat surface.



**Figure 33** is a schematic top plan view of a paint brush handle together with a ferrel end bristles showing the paint brush tilting mechanism.

**Figure 34** is a side elevational plan view of the paint brush handle together with the brush and ferrel placed onto a flat surface.

5 **Figure 35** is a top perspective schematic view of a paint brush tilting device.

**Figure 36** is a inside perspective view of the paint brush tilting device shown in Figure 35.

**Figure 37** shows the paint brush tilting device shown in Figure 35 being mounted onto a paint brush handle.

10 **Figure 38** is a inside perspective view of an alternate paint brush tilting device.

**Figure 39** is a bottom inside perspective view of the paint brush tilting device shown in Figure 38.

**Figure 40** shows the paint brush tilting device shown in Figure 38 being mounted onto a paint brush handle.

15 **Figure 41** is a top plan view of a paint brush ferrel showing a single dimple providing for a ridge.

**Figure 42** is a left plan view of the paint brush ferrel shown in Figure 41.

**Figure 43** is a right elevational plan view of the paint brush ferrel shown in Figure 41.

20 **Figure 44** is a front elevational plan view of the paint brush ferrel shown in Figure

41.

**Figure 45** is a bottom plan view of the paint brush ferrel shown in Figure 41.

**Figure 46** is a top plan view of a paint brush ferrel showing a single dimple providing for a ridge.

5 **Figure 47** is a left plan view of the paint brush ferrel shown in Figure 46.

**Figure 48** is a right elevational plan view of the paint brush ferrel shown in Figure 46.

**Figure 49** is a front elevational plan view of the paint brush ferrel shown in Figure 46.

10 **Figure 50** is a bottom plan view of the paint brush ferrel shown in Figure 46.

### **Detailed Description of the preferred Embodiment**

Referring to figures 31 and 32, the present invention a brush tilting mechanism showing generally as 100 comprises a ridge 110 which is integrally part of a ferrel 102 which  
15 is used to manufacture a brush head 106. A brush head 106 normally includes bristles 104 and a ferrel 102. In the manufacturing process a metal ferrel is manufactured to assemble together a handle 118 with a ferrel 102, and for glueing of bristles 104 into ferrel 102. The problem encountered with traditional brushes is that when they are set down, the bristles 104 tend to lay on a surface on which the brush is placed. It would be useful to be able to place  
20 a brush onto a flat surface 120 without bristles 104 touching said flat surface. This is

particularly important when bristles 104 are loaded with paint in order to prevent contamination of the paint on bristles 104 from dirt and or dust which may be laying on flat surface 120. In addition, paint on bristles 104 will not be applied onto flat surface 120.

5 In order to raise bristles 104 off of flat surface 120, a small ridge 110 is added to ferrel 102. When such a ridge 110 is introduced onto ferrel 102 the weight of handle 118 causes the entire brush 130 to pivot and come to rest with ridge 110 touching flat surface and a rest point 114 also touching flat surface 120. Rest point 114 usually being somewhere near the rear portion of shoulder 112 of handle 118. The resulting tilting of brush 130 creates an angle theta 122 between flat surface 120 and bristles 104.

10 For maximum effectiveness, the handle 118 of brush 130 shown is of the bent handle type and/or the ergonomic handle type which allows for significant tilting back of handle 118 with the introduction of ridge 110.

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Brush tilting mechanism 100 as best shown in Figure 31 and 32 is applied to a bent paint brush handle 118 as shown.. Handle 118 includes a handle section 440 oriented along a handle axis 420, a transition section 424 connecting the handle section 440 of the handle to the head section 442 of the handle. Brush head 106 of brush 130 is oriented along a brush plane 422 as best shown in Figure 32. Brush head 106 is mounted to handle 118 proximate

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shoulder 112 of head section 442. Handle axis 420 is spaced from and parallel to brush plane 422 thereby enabling the brush tilting mechanism namely ridge 110 to tilt handle 118 such that bristles 104 of brush head 106 are elevated and tilted at an angle  $\theta$  122 relative a flat surface 120. The brush tilting ridge 110 ensures that brush 130 comes to rest on ridge 110 and rest point 114 as shown in Figure 32. The handle 118 further including a brush end 430 upon which brush head 106 is mounted on. Brush head 106 includes ferrule 102 and bristles 104.

Referring now to Figures 25 and 26, the ridge 110 has been placed closer to bristles 104 and this results in an angle  $\delta$  132 which is less than angle  $\theta$  122. In other words, the placement of the ridge 110 in relationship to the shoulder 112 will determine the angle  $\theta$  or  $\delta$  which is achieved. By way of example, by moving ridge 110 closer and closer to shoulder 112, the angle between the flat surface 120 and the bristles 104 becomes greater.

Referring now to Figures 27 and 28 which show the present invention in use with a standard straight handle brush, brush tilting mechanism 200 in this case shown with a normally straight handle brush 230 having handle 218, bristles 204, ferrule 202 making up brush head 206. As depicted in Figures 27 and 28, ridge 210 which is located and integrally part of ferrule 202, tilts bristles 204 off of flat surface 220 by the amount of angle  $\gamma$  222.

In this case, because handle 218 is of the straight type and not bent, the handle pivots about

ridge 210 and comes to rest on a raised portion ridge 210 and rest point 214 which is very near the end of handle 218.

Referring now to the rest of the figures, there are many combinations and different approaches for providing of raised portions or ridges 110. Figures 1 to 40 show a ferrel having two ridges 110. Figures 5 through 9, show a ferrel 102 having a single dimple 302 type ridge. Figures 10 through 14 show a double dimple 300 type ridge. Figures 15 through 18, show an elongated dimple 304 type ridge. Figures 20 through 24 show a double dimple ridge showing a spread apart orientation of the said ridges. Figures 35 and 36, show an adaptor piece 310 which can be used for retrofitting an existing brush handle with a raised portion pivoting point 312 or a ridge. As shown in Figures 35 and 36 the adaptor piece 310 shown can be slid onto any existing ferrel of a brush in order to allow for tilting of the brush handle.

Figure 38 and 39, show a different combination of similar retrofit mechanism for placing on a brush, wherein in Figure 40, is shown how the sleeve 320 can be fit over an existing brush. Figures 41 through 45 show an alternate arrangement to the raised portion namely ridge 330.